Chem 124 Spring 2014 Course Information/Syllabus

Instructor: Dr. Kristi Kincaid (DBH 242; kincaid@rice.edu)

Office hours: TBA

Classroom coordinator: Sofia Medrano (DBH 243, smedrano@rice.edu)

Course Philosophy and Aims:

This course is part of a two semester sequence designed to enhance the material from the general chemistry lecture course and prepare you to enter a scientific research environment. A main focus of the curriculum this semester is how to use data collected in lab to draw conclusions about the subject of inquiry. This second semester course will also involve more laboratory skills than the first semester. The skills (both mental and physical) that you will learn in these courses are applicable to any scientific discipline that you may pursue.

Location and time:

There are six different sections that meet each week (Monday night, Tuesday and Wednesday afternoons)[1]. Each section will follow a 2-week sequence, with the lab performed the first week, and a discussion of data analysis taking place in the second week. Sections are staggered so that there will be two concurrent sections (one in lab and one in discussion) running most weeks**.** Sections 1, 3, and 5 will perform the lab first; and sections 2, 4, and 6 will perform the lab second.

See individual section schedules on OwlSpace for details.

During Lab weeks, students will meet in room 214 DBH for a brief pre-lab lecture before moving to room 200. Discussion groups will meet in room 210 DBH. During your first lab meeting, you will be assigned to one of 2 discussion groups for your section. Times for individual lab and discussion sections are on OwlSpace.

Course Requirements:

Academic requirements:

Attendance is mandatory for **every** lab and **every** discussion session (see "Missed Labs" section for details). If you fail to make arrangements for a missed lab or discussion, you will receive zero points for that lab. Punctuality is also mandatory**; points will be deducted from your grade for tardiness**. **Extremely late students (>15 minutes) may not be admitted to lab, at the instructor's discretion.**

For each lab, you will need to turn in the following: completed pre-lab, copies of your data, initial data analysis, and final lab report. See "Lab Reports" section for details

[1] Section 7 will only be open of the total enrollment for Chem 122/124 exceeds the capacity for 6 sections.

Materials/safety requirements:

The following special materials are required for this course:

- Knee-length lab coat
- Carbon-copy lab notebook ("carbonless" variety is STRONGLY recommended)

The Chemistry Graduate Student Association (CGSA) will be selling lab coats ($20) and notebooks ($15) at the beginning of the semester; time and location will be announced in class. They accept cash or check only, NO CREDIT CARDS. You are not required to purchase these supplies from them, but most students find it most convenient to do so.

At the beginning of the semester, you will need to sign a form on OwlSpace *(under tests & quizzes)* that you have read and agree to abide by the lab safety rules. Foremost among them are that you wear proper PPE (personal protective equipment) whenever you are in lab. This includes:

- closed-toe shoes
- safety glasses (provided for you in lab)
- lab coat
- full-coverage clothing (no shorts or short skirts)

Lab Reports:

The lab procedures and reports will be posted on OwlSpace. Prior to lab, you will need to download and read the experiment for the week (including any background reading), and print out the lab procedure. You will also need to complete a pre-lab assignment prior to coming to lab; this consists of writing down a plan for the day's lab, which includes to order in which you will execute the experiment and the data you will need to collect. You should come to lab prepared to discuss the lab in-depth and be able to make predictions about any outcomes.

During lab, you will record your data in your lab notebook; the specific format and requirements for the report will be explained in the individual labs. Copies of your data must be turned in to your TA at the end of lab. Preliminary analysis of your data will be due to your discussion TA at the beginning of discussion the following week. A final lab report, including data analysis and additional questions, will be due to your lab TA at the beginning of your next lab section (2 weeks after data collection).

Lab reports fall under the scope of Rice's honor code. Discussion is an important part of the scientific process, and you are encouraged to ***discuss*** the lab with your partner, TAs, and other classmates. However, you must complete your own report, including all calculations and conclusions; be mindful of the difference between collaboration and copying.

Lab Notebook:

Your lab notebook is a record of what you DO and OBSERVE in lab. It is not a simple collection of data tables or a jumble of disorganized scribbles. An ideal notebook allows another scientist to recreate your experiment from only what is written down. See "Lab Notebooks and Reports"

on OwlSpace for more information. You are required to use the carbon copy style notebooks, and you will turn in the copies to your TA at the end of each lab. Additional data analysis and final reports may be done on a computer or regular paper, but all of the data used must come from the information that you recorded in lab, unless you state where it comes from (e.g. another student's data).

Grading:

Each lab will be worth 50 points. The points for each lab will be divided between the lab report and participation points from your discussion section. Points can (and will!) also be added or deducted to your lab report based on lab citizenship (see above). Points will be deducted for tardiness to class. Late reports will be docked points for each day late (5pts/day). Reports will not be accepted more than one week late.

The total points for all 5 labs (250 possible) will be added to your points from Chem 122 (750 possible) to give your final letter grade for both courses (out of a total of 1000 points).

Regrading:

If you think you were graded incorrectly, you may submit your report for a regrade. **Submit all regrade requests to Dr. Kincaid**; do NOT submit a regrade request to your TA. You have **3 days after a lab is returned** to you to submit a regrade request. To ensure proper record keeping do NOT write on your original lab report; instead, submit a separate sheet of paper with your reasons for requesting a regrade.

Missed labs/discussions:

Attendance of every lab and every discussion is mandatory for this course.

It is your responsibility to contact Dr. Kincaid as soon as possible when you miss a lab or discussion. For approved university commitments, contact Dr. Kincaid at least one week in advance of your absence so that you can reschedule to attend a different section that same week. For unscheduled absences, such as severe illness, contact Dr. Kincaid as soon as you realize you will not be able to attend, and arrangements can be made to make up the lab.

In the event of making up a lab/discussion, your lab report/initial data analysis will still be due at the regularly scheduled time.

If you have an unexcused absence or fail to contact Dr. Kincaid and make arrangements for a missed lab or discussion, you will receive zero points for that lab. Please note that the zero will be for the entire lab, even if you only miss either the lab or discussion. For this reason, it is imperative that you contact Dr. Kincaid in the event of an absence, regardless of its cause.

Lab Citizenship:

Anyone who pursues a career in the sciences will work within a group of other researchers in one way or another (unless you are extremely rich and extremely eccentric). Because of this, it is important to learn how to be a good lab citizen. Good lab citizenship generally can be summed up by the golden rule: treat others as you would like to be treated. Specifically, some key components are:

- ***Respect*** *for others in conversation and space use*
- ***Tidiness*** *in common use areas*
- ***Conscientious*** *use of shared reagents*
- ***Openness*** *to scientific discussion with labmates*
- *Leaving your work area in a* ***clean*** *and* ***safe*** *state*

Safety:

Lab safety is taken very seriously at Rice. As mentioned above, closed-toe shoes, safety glasses, full coverage clothing, and lab coats are required when we are in room 200. Even if you feel that you aren't doing anything dangerous, it is important to always follow safety rules in the lab. This is because lab safety procedures are designed to protect you not only from your own actions, but also from those around you and those that have been in the lab before you. You may be clean and careful, but the person next to you may not be, or the person who used the bench prior to you may have left an acid spill there.

Cubbies are provided to store your bags and backpacks; they are not to be placed on the floor or on the bench.

There will be **absolutely no eating or drinking** allowed in the lab. Period. It is also highly recommended that you wash your hands upon leaving the lab.

Phones, ipods, etc. are to be silenced or turned off, and left in your bag.

Students under 18:

Your parents or legal guardian are required to sign a "Release and Hold Harmless Agreement" before you can work in the lab. Download this form from OwlSpace and turn in a signed paper copy to Sofia Medrano. Your parent may also fax this form to 713-348-3479.

If you already completed this form for Chem 123, you do not need to do so a second time.

Special Needs:

Any student with a disability requiring accommodations in this class is encouraged to contact the instructor during the first two weeks of class. All discussions will remain confidential. Students should also contact the Disabled Student Services Office in the Ley Student Center.